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THE PLANT DISEASE REPORTER

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BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

THE PLANT DISEASE REPORTER

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THE OFFICE OF MYCOLOGY AND DISEASE SURVEY

VOLUME X September 15, 1926 Number 7

SOME REPORTS ON ALFALFA DISEASES

Yellow leaf blotch caused by Pyrenopeziza medicaginis

Utah: The yellow leaf blotch of alfalfa appeared on several farms on the first crop in Utah and Cache Counties, in certain fields. Infection was practically 100 per cent and large numbers of the plants in these fields were practically defoliated. This is the first year that the trouble has been found to be of serious economic importance in Utah. (Richards, Aug. 28)

Washington: The leafspots of alfalfa (Pseudopeziza and Pyrenopeziza) were very prevalent throughout the state this year. A number of reports have reached me where these diseases caused almost total defoliation of the first crop of alfalfa. (Zundel, Aug. 25)

Specimens have been received from Utah, collected by Richards in Cache County during May; and from Idaho, collected at Moscow by Haskell and Hungerford, July 2.

Leaf blotch caused by Macrosporium sp. in Missouri

"Widespread in southeastern Missouri. Although the disease was found in various counties it had proved serious only in St. Francois County. The fields had been subjected to a severe drought and the plants were quite yellow, or most of them were entirely defoliated by the fungus." (Archer, Aug. 14)

Downy mildew caused by Peronospora trifoliorum in Colorado

"This disease has been very prevalent over the state this year. At the present time it is showing up very abundantly in some instances on the third cutting, which is indeed very uncommon. It usually is much more prevalent on the first cutting, and difficult to locate in the fall, while all indications are that this fall it will be abundant. Entire plants are somewhat dwarfed and discolored with all leaves covered with the asexual fruits." (Isarn, Aug. 1)

Bacterial wilt caused by Aplanobacter insidiosum

Neal reports that bacterial wilt of alfalfa has been found in three counties in Mississippi this season. The disease is present in scattered localities in Washington and Coahoma Counties and has been found in two fields in Monroe County. The damage caused is considerable in Washington County but slight in the other two counties. (Aug. 1)

Wilt caused by Sclerotinia trifoliorum in Washington

"The alfalfa wilt was rather prevalent this spring around the region of Puget Sound. It attacked mostly the one-year old alfalfa plants. Infection ranged from a trace to as high as 95 per cent. In one case, in eastern King County, the fungus was found on red clover. There was only one report of the occurrence of this disease south of Pierce County." (Zundel, Aug. 25)

Stem canker and girdle (cause undet.) in Missouri

"In Dunklin, Stoddard, and Mississippi Counties there was found a stem canker which was doing severe damage in at least one field. In one place the same or a similar canker was found on sweet clover in a field adjoining an infected alfalfa field. The cankers occur toward the base of the stem. When the stem is completely encircled it wilts at the top and finally dies. The tissue in fresh cankered areas is quite flaccid so the stem may not remain upright. As yet the causal organism has not been determined." (Archer, Aug. 14)

POWDERY MILDEW OF RED CLOVER PREVALENT IN WASHINGTON

"The powdery mildew of red clover is very prevalent in the state this year. The host, whether it occurs in eastern Washington or in the extreme western part of the state, seems to be entirely covered with the mildew. This fungus has been becoming more prevalent each year for the last two or three years, and in a number of cases where the farmers have been harvesting red clover hay, the spores have been so abundant that when it was handled a cloud of spores, similar to a dust storm, was emitted." (Zundel, Aug. 25)

BACTERIAL WILT OF CORN (APLANOBACTER STEWARTII)

Ohio: Serious losses to sweet corn are general. This disease is of increasing importance upon field corn. (Thomas, Aug. 15)

Missouri: Found on popcorn in a number of fields in southeastern Missouri, usually causing a loss of about 10 to 15 per cent. Isolations were made by Dr. H. R. Rosen and by Dr. Irl C. Scott. (Archer, Aug. 24)

ROOT ROTS OF CORN

Alabama: (Gibberella spp. & Fusarium spp.) Death of corn in well defined areas due to root troubles very evident. In some cases on light sandy soils apparently mostly due to corn wire worm with root rot a contributing factor. Loss as high as 80 per cent in fields following alfalfa noted. Loss for state probably as high as 4 per cent. (Miles, Sept. 1)

Missouri: This disease has been found in practically all parts of the state. In counties south of the Missouri River the infection frequently runs as high as 60 per cent. The infection rarely runs less than 30 per cent. Presumably there is a large infection in counties north of the Missouri River but this area has not been carefully surveyed. (Archer, Aug. 14)

BACTERIAL LEAFSPOT OF OATS

A bacterial leafspot similar to the one reported from Arkansas by Rosen (See page 50 of the August 1 issue of this Reporter) occurs in Manitoba, according to Bisby, who states:

> "A bacterial leafspot of oats is very prevalent in Manitoba. It is much more common than halo-blight. Specimens were submitted to H. R. Rosen, who finds that the disease is similar to or identical with the bacterial blotch he has found in Arkansas."

FURTHER REPORTS ON FIRE BLIGHT (BACILLUS AMYLOVORUS)

Maryland: Fire blight has been very severe on apples again this year. (Jehle, Sept. 1)

Alabama: Less than usual on apples. Abundant, however, in form of blossom blight in some sections of northern part of state. Loss 1.5 per cent. (Miles, Sept. 1)

Wisconsin: Less than last year, but most severe disease in many apple orchards. No further spread at this season. (Vaughan, Sept. 1)

Missouri: Apple - Continued observation over the state reveals that there is severe infection. Observers report in all sections that this is the third successive year of fire blight on apple. In a number of places young trees have been girdled and killed this year.

Pear - The Kieffer pear, which is grown extensively over the state, shows severe blighting this year. In one locality three-fourths of a young orchard of Tyson pears had been killed. (Archer, Aug. 24)

Arizona: Pear blight has been especially severe this summer in northern Arizona. Usually the disease is active only in the early spring in the blossom stage, and advance discontinues during the warmer months. This year the active stage has persisted throughout the summer. (Brisley, Aug. 16)

SOME REPORTS ON PEACH DISEASES

Bacterial spot (Bacterium pruni)

Missouri: The distribution seems to be quite irregular but in Jackson, Wright, Scott, and Dunklin Counties there has been severe defoliation and in some cases severe fruit spot. In the same orchard there is often irregular distribution, some trees practically escaping injury. In one orchard the trees revealed severe injury on the southwest side. This was explained by the fact that there had been a hailstorm from that direction. (Archer, Aug. 14)

Brown rot (Sclerotinia fructicola)

Illinois: Not prevalent to date in commercial orchards. Dry weather prevailed in the peach growing section during the summer thus reducing chances of infection. Heavy rains fell early in August in some sections and this may change the situation later. (Anderson, Aug. 10)

Missouri: Fairly common over the state and severe in orchards that have not been properly sprayed, causing total loss in some small orchards. (Archer, Aug. 24)

Rhizopus rot

Delaware: Soft rot is more common than ever experienced. Generally found following sun scald injury and infestation by peach moth. (Adams, Aug. 15)

DISEASES OF COTTON

Wilt (Fusarium vasinfectum)

South Carolina: Have more inquiries than usual and mostly from

the lower parts of the state. I doubt that it is present in more abundance than usual, however. Most of the lower country people are familiar with the disease and do not inquire about it but for some reason it made its appearance to more people this year who were unfamiliar with it than usual. Still gradually invading the upper sections, though. (Ludwig, Sept. 1)

Alabama: Serious where susceptible varieties are grown. Loss as high as 50 per cent in some fields. Loss for state 3 per cent. Not as abundant as last year. (Miles, Sept. 1)

Missouri (Dunklin Co.): Damage slight. Only one area in field affected. This area was sandy and roots of plants were infested with nematodes. Several other fields were similarly affected. (Archer, Aug. 3)

Angular leafspot (Bacterium malvacearum)

South Carolina: Reported as quite abundant by Mr. Pepper, of Entomology Extension, in Clarendon County and in one or two places in Richland County. At the college it was rather abundant early in spite of very dry weather. At present it does not seem to have increased much, although the weather has been more moist lately. (Ludwig, Sept. 1)

Alabama: Mostly leaf spotting. More prevalent than last year. Some boll rot. Loss probably 1.5 per cent. (Miles, Sept. 1)

Blight (Ascochyta gossypii)

South Carolina: One complaint. (Ludwig, Sept. 1)

Alabama: Present in two fields observed last year in about same quantities. New infection near Deatsville in Elmore County, small area, 20 per cent of stalks in spot killed or badly affected by July 20. August 17 no further spread and affected stalks recovering. This was surprising as a number of heavy rains had occurred in the meantime. (Miles, Sept. 1)

Anthracnose (Glomerella gossypii)

Alabama: Anthracnose much more abundant than last year. Loss probably 3 per cent. (Miles, Sept. 1)

POTATO SPRAYING IN NEW JERSEY

"A number of potato growers in central and southern Jersey sprayed for the first time this year. To date, the indications are that the average increase from spraying will be 50 bushels per acre. There was no late blight and only a

trace of early blight. Most of the increase resulted from the control of leaf hoppers. Bordeaux 5-5-50 without nicotine sulfate gave complete control." (Dept. Plant Path., Sept. 1)

LATE BLIGHT (PHYTOPHTHORA INFESTANS) IN MAINE AND WISCONSIN

Maine: In an unsprayed acre on low ground, on August 18, Bonde found two affected plants. On August 25, after a heavy rain and some warm weather, every plant was infected for some 50 feet in the vicinity of the source of infection. (Folsom, Sept. 1)

Wisconsin: Found on Rural New Yorker in Rusk County, August 17, and on Green Mountain in Oneida County, August 21. Probably occurs in scattering amounts in many northern fields as rains have been frequent. (Brann, Aug. 24)

Late blight reports indicate new centers of this disease are developing. Too early to estimate extent of injury. (Vaughan, Sept. 1)

OTHER POTATO DISEASES

Rhizoctonia (Corticium vagum)

Maryland: This disease made its first appearance in our early Cobblers soon after they began to sprout, killing and injuring many young sprouts and causing an uneven stand. The trouble was general, but was much more severe in some fields than in others.

Later the disease made its appearance in the field with the usual rosette symptoms. The loss was only slight in the early crop, since few plants were affected. However, in the late crop in western Maryland losses were very severe from this phase of the disease, some fields inspected for certification having as high as 8 per cent of the plants affected.

In the early crop a third phase of the disease was unusually severe. This phase of the disease caused a fine cracking of the skin giving the tubers a russeted appearance. The injury was so severe in many cases that the potatoes could not be placed in the U. S. No. 1 grade. (Jehle, Sept. 1)

Washington: Generally prevalent in all parts of the state. Considerable damage is done throughout the season. The disease is of minor importance as compared with the virus diseases. (Dept. Plant Path., Aug. 1)

Oregon: This disease is doing the usual amount of damage. It is a major factor in reducing yields in Oregon. (Barss, Aug. 1)

Seed piece decay important in Washington

"The cold rains in May, caused a great deal of rotting of the potato seed in western Washington, so that very few of the fields planted in that month have over a 35 per cent stand, except where whole potatoes were used as seed. The stands in the Yakima Valley or in eastern Washington in general, are not up to normal. While we have a larger planting of potatoes this year than in 1925, it is my opinion and that of State Seed Inspector Chas. D. Gaines, that we will have a decrease of 50 per cent in our yield of potatoes over that of 1925." (Zundel, Aug. 25)

Mild mosaic (virus)

Washington: Hot weather throughout the eastern and western part of the state during July has produced a condition where mild mosaic is entirely masked, so far as mottling is concerned, and some of our field work is based purely upon the ruffling of the leaves and upon the general appearance of the plant. In a trip extending from July 18 to August 18 inclusive, I did not see over 2 or 3 cases of good mottling in mild mosaic, and those few cases happened to be where there was more or less shade. The demand for good seed has increased 60 per cent during the last year, and as a result the amount of mosaic is gradually being decreased. (Zundel, Aug. 25)

Leaf roll (virus)

Arkansas: Noted as common on Bliss Triumph. This is the first year that I have been able to recognize it definitely in the field. Probably the cool moist weather prevalent in the early part of the growing season was conducive to the development of recognizable symptoms. (Rosen, Aug. 1)

Hopperburn

Maine: Severe outside of Aroostook County, in comparison with usual conditions. None in Aroostook County. (Folsom, Sept. 1)

Arkansas: Extremely prevalent this year. As there has been considerable rainfall where this injury has been observed, and as leaf hoppers were very common, there is little doubt that the injury was due to the hoppers and not to any lack of moisture. (Rosen, Aug. 1)

SWEET POTATO FOOT ROT (PLENODOMUS DESTRUENS) IN GEORGIA

O. C. Boyd makes the following report of the finding of foot rot of sweet potatoes in Georgia:

"On July 19, foot rot was found in a planting of Upriver

sweet potatoes on a farm at Ambrose, Coffee County. Source of potatoes, Swedesborough, N. J.

"The entire crop of potatoes was dug in August, loaded into barrels in the field, and shipped out of the state for eating purposes. All vines in that field were destroyed by cutting with a disc harrow and exposing to the sun. Fifty acres of vine cuttings were destroyed. The entire farm was quarantined, covering the prohibiting of the growth of sweet potatoes for a period of five years.

"The potatoes were shipped into Georgia in violation of the state rules and regulations governing the importation of sweet potatoes."

OTHER REPORTS OF SWEET POTATO DISEASES

Pox (Cystospora batata) in North Carolina

"The pox disease was observed July 9 on the Big Stem Jersey variety at Harbinger, near the point of Currituck County. The infection of the potatoes was slight, and the vines were not stunted as was the case when the disease was severe. Growers maintain that infection was heavy during the past two seasons. Severe droughts have occurred both seasons in that county." (Poole, Aug. 17)

Mosaic (undet.)

According to Wedgworth, a trace of this disease has been reported from a large number of the sweet potato fields in nearly every section of Mississippi. (Aug. 15)

Stem rot (Fusarium spp.)

New Jersey: Due to late infection the percentage of plants killed by stem rot was very small. In many fields, however, as many as 75 per cent of the plants are infected. (Dept. Plant Path., Sept. 6)

Virginia: Material from Carson, Va. No doubt it is fairly prevalent in that section. (Fromme, Aug. 15)

North Carolina: The stem rot of sweet potatoes is widely distributed in this state, and has caused heavy losses on the Norfolk sands. In Currituck County where the Big Stem Jersey is grown commercially for early market, the stem rot loss is none to 40 per cent. A large percentage of the plants dying during June when the weather was dry and hot. In the sand hill counties in the vicinity of Southern Pines and Hoffman, the Porto Rico variety was replanted several times before a stand was obtained. Plants of this variety were most severely attacked in June, but some plants became diseased

and died up to August 1. In Wayne County, near Goldsboro, similar losses of the Porto Rico were observed, and growers maintain that the disease has been severe on their farms for several years, although they have carefully selected disease-free seed and rotated with field crops. In spite of the heavy losses, many fields of the Porto Rico variety without a trace of stem rot were examined in August. Plantings of Southern Queen, White Yam and Norton Yam varieties in the same localities are healthy. (Poole, Aug. 17)

Mississippi: More severe than usual in uncertified fields. (Wodgworth, Aug. 15)

Arkansas: Reported as more prevalent than usual by inspectors of the State Plant Board, (V. H. Young, Aug. 15)

TOBACCO DISEASES

Blackfire (Bacterium angulatum)

Virginia: Of very minor importance so far this season and much of the crop will escape injury. Infection has increased during the recent rains and if it should continue wet, late crops may suffer. (Fromme, Aug. 31)

Kentucky: This disease was very prevalent in plant beds and in the Burley section is very prevalent in nearly every field, in some cases ruining the crop and on an average causing probably between 5 and 10 per cent injury.

The use of 2 year old seed with other sanitary precautions, has in some cases given striking results in control both in plant beds and in the field. (Valleau, Sept. 1)

Wisconsin: This disease was conspicuous by its absence this year. (Johnson, Sept. 1)

Wildfire (B. tabacum)

Maryland: Wildfire is widely distributed this year but at the time of inspection had caused very little damage. A trace of infection was found on about 15 per cent of the plants. Some fields showed as high as 80 per cent. It is expected that the recent rains have increased the damage considerably. (Jehle & Hunter, Sept. 1)

Kentucky: Very little if any in the vicinity of Lexington. One specimen received from La Grange. This disease is very uncommon as compared with angular leafspot. (Valleau, Sept. 1)

Wisconsin: Occurred on relatively few farms in seed beds in June. Although infected plants in many cases were transplanted to the field, very little subsequent spread has occurred with practi-

ually no damage, due largely to absence of storms and relatively dry weather. (Johnson, Sept. 1)

Wisconsin bacterial leaf spot (B. melleum)

Kentucky: This disease appeared in a small area in a plant bed on the experiment station farm after the canvas had been removed. No sign of it was seen before that time. The spots appeared similar to wildfire but the organism appeared yellow when cultured. James Johnson considered it the same as his B. melleum. (Valleau, Sept. 1)

Black root rot (Thielavia basicola)

Virginia: Plants in an area of about one-eighth acre in a field in Charlotte County showed severe dwarfing. (Fromme, Aug. 1)

Kentucky: About the usual amount of infection but probably less injury than usual. (Valleau, Sept. 1)

Wisconsin: Generally present in old tobacco fields, but damage apparently below normal. The use of resistant strains is decreasing the loss considerably. (Johnson, Sept. 1)

Brown root rot (undet.)

Kentucky: Injury decidedly less this year than usual. (Valleau, Sept. 1)

Wisconsin: This trouble, which is related to plantings on sod land, is no doubt the major cause of the poor fields this season. It is estimated that this trouble is reducing the yield 20 to 25 per cent. (Johnson, Sept. 1)

Mosaic (virus)

Maryland: This disease is general over the tobacco-growing section of the state. It is about as prevalent this year as last, but the injury is somewhat greater. Several fields have been found in which 50 per cent of the plants were severely stunted. In numerous fields 100 per cent of the plants show infection. About 10 per cent of the plants were injured by early infection. Mosaic blister is more severe than usual this year. (Jehle & Hunter, Sept. 1)

Virginia: Some found in every field, but no severe injury. Infection occurs chiefly on suckers and replants. (Fromme, Aug. 31)

Kentucky: About the usual amount of infection but decidedly less mosaic burning than last year, apparently because of wet weather. Burning seems to be associated with dry periods. (Valleau, Sept. 1)

Wisconsin: Occurring commonly on occasional plants in most fields but not involving much loss except in relatively small number of fields. (Johnson, Sept. 1)

Fusarium wilt (Fusarium sp.)

Maryland: A trace of this disease was found in most sections of the state. One field was found with 3 per cent of the plants affected. Due to the extremely wet weather the plants did not show the typical wilting, but the vascular system was distinctly discolored and the tips of a large number of leaves had rotted. (Hunter, Sept. 1)

WESTERN YELLOW TOMATO BLIGHT SEVERE IN WASHINGTON

"The western field blight of tomato is extremely prevalent in the state this year. As an example - the forecast of the yield of tomatoes in the Walla Walla section was 100 cars, but the blight has done such a good job that they will not have over 2 or 3 cars to ship. During my recent visits in western Washington, it was not uncommon for the farmers to take me to their tomato patches and show me where from 50 to 95 per cent of the plants had been killed. The damage done by this disease is the greatest that I have known in the 9 years I have been in the state." (Zundel, Aug. 25)

TOMATO LEAFSPOT (SEPTORIA LYCOPERSICI)

New Jersey: In many fields the Bonny Best and other second earlies are almost completely defoliated as the result of the presence of Septoria leafspot. The Marglobe variety is apparently much more resistant to this disease than are the varieties commonly grown. The Marglobe has yielded well and the fruit has good size and color. (Dept. Plant Path., Sept. 5)

Alabama: Less than usual this year. Loss probably one-half per cent. (Miles, Sept. 1)

SOME INTERESTING SPECIMENS RECEIVED

Bacterium marginatum on gladiolus

Collected at Clemson College, S. C., by C. A. Ludwig, August 11. Determination by Miss McCulloch.

Armillaria mellea on roots of Deodar cedar

Collected at A. & M. College, Miss., by H. H. Wedgworth, September 6. Determined by J. R. Weir.